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SIPUNCULIDAE

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vedish Deep-Sea Expedition in 1947—
red material of sipunculids only from
tion in the West Atlantic Deep Basin,
. 387 (Haul No. 13) N 40° 33' W 35° 24'
' 34' W 35° 52', Sept. 7th 1948; depth
4,600 m; nature of bottom: argillaceous
rina ooze.

material now preserved at the Museum
ral History in Gothenburg was kindly
over to me by Dr. O. NYBELIN, the
of the Museum and the zoological
of the expedition.

closer examination, i. e. a dissection,
imens proved to be *Golfingia margarita-*
RS).[1])

Fam. SIPUNCULIDAE

gia (= **Phascolosoma** LEUCK. 1828
art.) **margaritacea** (SARS) 1851.

species is represented by 17 specimens,
rather curious exterior, differing from
al cylindrical shape of the species, and
kely due to the preservation and to
ngeability of shape, which is characteris-
many of the sipunculids. It is quite
that the decrease of pressure during
ling-in of the cable from a depth of
4,600 m (duration 4 1/2 hours, from 6
10.30 p. m.) may have influenced the
f the animals considerably. The speci-
ere part of a densely-packed cluster of
different animals (holothurians and polychaetes) which clung to one of the drags of the bridle-line stretcher (Vol. II, fasc. I, p. 8, fig. 3).

In all specimens the thrunk ends in a more or less thread-like »tail», distinctly set off from the rest of the body. This feature is characteristic of a pronouncedly abyssal sipunculid, *Phascoloides flagrifera* (SELENKA) 1883, and it is intelligible that in the preliminary identification the specimens in question were presumed to belong to this species (op. cit. p. 8). The dissection showed, however, that there are 4 retractor muscles, and on account of this and other anatomical features and the shape and the distribution of the skin-papillae, the specimens are now referred to *G. margaritacea* (SARS). Be it said, however, that in each of the specimens the retractors, the alimentary canal and the intestinal anchoring muscles were ruptured; not a single specimen was undamaged. In none of them was the tentacular crown expanded.

As far as I can see from the literature, *G. margaritacea* has not previously been obtained from such great depths as about 4,500 m. It is, however, of some interest to point out that the »Ingolf» Expedition secured a specimen from 3,230 m (St. 37, in the southern part of Baffin Bay). In this abyssal specimen exactly the same filiform tip of the trunk was found; but furthermore the specimen was distinguished by a large number of globular, transparent vesicles, about 1/2 mm in diameter, which densely covered the hindmost two thirds of the body. In the report of the »Ingolf» Expedition (E. WESENBERG-LUND 1930 IV,

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re follow the late W. K. FISHER, who (1950
) has so laboriously unravelled the complicated
y of the genus *Phascolosoma* LEUCK. 1828.

part 7, p. 26—27, pl. III, fig. 33) I put forward the supposition that these vesicles were actually the papillar bodies of the skin, which were puffed up into vesicles during the transportation from the depth to the surface as a consequence of the rapid decrease of the outside pressure and the higher pressure in the coelomic liquid. As regards the function of the vesicles the supposition was put forward that an exchange of gases might take place through their delicate walls — in other words that they were possibly a kind of respiratory organs. Since then I have eagerly been looking out for other specimens from abyssal regions. In this respect the present collection has been a bitter disappointment: No trace whatever of puffed up vesicles! Why? I suppose that this may be due to the fact that many of the animals are so highly contracted, and in nearly half of them the body-wall has burst and even parts of the intestinal coil been forced through the ruptures; accordingly the pressure in the body-cavity has d and the glandular bodies have n vesicles.

In 1912 SOUTHERN (p. 21, pl. IV) a sipunculid, *Phascolosoma muricaud* four retractors and a tail-like appen type specimens were taken at ra depths (576—1,071 m) off the south of Ireland; later by the »Deutsch Expedition» (FISCHER 1922, p. 10) Island and off Dar-es-Salam in E My reasons for not referring the pre mens to SOUTHERN's species are th of the hooks on the introvert and th shape and distribution of the pap

G. margaritacea is a widely distribut most probably cosmopolitan. It is a bipolar; in the northern hemisph circumpolar; it is fairly common arctic and boreal areas. In the A ranges south to Morocco and the A the western side to Philadelphia Pacific it ranges from the Bering Japan, and along the west coast o from Alaska to California. In the region it is reported from the Falklan Magellan's Strait, Tierra del Fue Rocks Bank, South Georgia, the Region and the Ross Sea. Everyw depths less than a few hundred metr

Furthermore the material sent to m four black globules of pumice fro (Haul No. 14), N 43° 40' W 18° 45'– W 18° 59', Sept. 15th 1948; depth 5,0 m. Bottom: Volcanic Globigerina oo tropic sand and a large number of sm of pumice.

In size, the globules are about diameter; they were pierced by a na When crushed this tube was seen t some organic substance, which u microscope turned out to be small skin with minute papillae and oval bodies, most probably originating *Golfingia* sens. lat.

LIST OF GEPHYREANS RECORDED FROM DEPTHS GREATER THAN ABOUT 3,000 M IN THE LITERATURE AT MY DISPOSAL.

	Depth in m	Locality	Expedition	Author
Sipunculidae				
olosoma abyssorum ıthern)	4,990	N 2° 56′ W 11° 40′	Valdivia	W. Fischer 1922
gia catharinae (F. ler)	3,447	S 35° 39′ W 50° 47′	Challenger	Selenka 1885
gia flagriferum enka)	5,000	N 47° 08′ W 10° 49′	Monaco Exps	Sluiter 1912
gia flagriferum enka)	4,965	N 44° 29′ W 10° 31′	Monaco Exps	Sluiter 1912
gia flagriferum enka)	4,900	N 44° 06′ W 10° 22′	Monaco Exps	Sluiter 1900
gia flagriferum enka)	4,209	N 35° 41′ E 157° 42′	Challenger	Selenka 1885
gia flagriferum enka)	3,111	N 37° 25′ W 71° 40′	Challenger	Selenka 1885
gia margaritacea rs)	4,540—4,600	N 40° 33′ W 35° 24′	Swedish Deep-Sea Exp.	The present paper
gia margaritacea rs)	3,230	N 60° 17′ W 54° 05′	Ingolf	E. Wesenberg-Lund 1930
gia muricaudatum ıthern)	2,959	S 61° 12′ E 41° 17′	Valdivia	W. Fischer 1922
gia profundum Roule	4,255	between the Azores and Europe	Travailleur et Talisman	Roule 1907.
olion lutense Selenka ..	3,594	S 62° 26′ E 95° 44′	Challenger	Selenka 1885
olion lutense Selenka ..	3,568	S 53° 55′ E 108° 35′	Challenger	Selenka 1885
culus nitidus Sluiter = orvegicus Kor. & Dan.	4,400	N 36° 54′ E 23° 06′ 30″	Monaco Exps	Sluiter 1900
Echiuridae				
lia suhmi Selenka	4,380	N 46° 17′ 30″ W 5° 42′	Monaco Exps	Sluiter 1912
rid indeterm.	6,035	N 12° 07′ 30″ W 33° 32′ 45″	Monaco Exps	Sluiter 1912

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